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**United States Department of Agriculture****AGRICULTURAL MARKETING SERVICE****SERVICE AND REGULATORY ANNOUNCEMENTS NO. 172****OFFICIAL UNITED STATES STANDARDS FOR GRADES OF  
SLAUGHTER SWINE (BARROWS AND GILTS; SOWS)**

(Title 7, Chapter 1, Part 53, Subpart B, Sections 53.150-53.155 of the Code of  
Federal Regulations)

The following is a reprint of the official United States standards for grades of slaughter swine promulgated under the Agricultural Marketing Act of 1946 (60 Stat. 1087, as amended by Public Law 272, 84th Congress; 7 U. S. C. 1621 et seq.). The standards for barrows and gilts as reprinted herein were amended July 5, 1955. The standards for slaughter sows are reprinted as adopted September 1, 1956.

**DEVELOPMENT OF THE STANDARDS**

A system of classifying and grading market hogs was formulated by the United States Department of Agriculture in 1918 for use in the livestock market reporting service. The system was developed with the cooperation and assistance of many interested agencies and represented the most generally accepted market groupings of the time. After meetings with producers, animal husbandmen, market representatives, and slaughterers in 1928 and 1929, revisions were made, consistent with changes in production and marketing conditions, and tentative standards were issued in 1930. Further revisions were incorporated into the tentative standards in 1940 when they were published in Circular No. 569.

The United States Department of Agriculture proposed new standards for grades of slaughter barrows and gilts in 1949. Field testing, discussion, and demonstration of the standards resulted in slight revisions before promulgation, by the Secretary of Agriculture, as the official United States standards for grades of slaughter barrows and gilts, effective September 12, 1952.

The official standards were amended in July 1955 by changing the grade designations Choice No. 1, Choice No. 2, and Choice No. 3 to U. S. No. 1, U. S. No. 2, and U. S. No. 3, respectively. In addition, the degree of finish or fatness was reduced for each grade and the descriptive specifications were reworded slightly to reflect the reduced degrees of finish and to facilitate more uniform interpretation of the standards.

New standards for sows were proposed on April 27, 1956. These were developed after field testing to establish similar relationships between backfat thickness and yield of cuts as applied in the barrow and gilt standards. These standards were adopted effective on September 1, 1956, following further field testing, demonstrations, and discussions with industry.

## BASES FOR SWINE STANDARDS

The market standards for swine developed by the United States Department of Agriculture provide segregation according to (a) intended use, as slaughter or feeder and stocker animals, (b) class, as determined by sex condition, and (c) grade, or degree of excellence and suitability for a particular purpose.

### SLAUGHTER SWINE CLASSES

There are five classes of slaughter swine--barrows, gilts, sows, stags, and boars.

#### BARROW

A barrow is a male swine castrated when young and before development of the secondary physical characteristics of a boar.

#### GILT

A gilt is a young female swine that has not produced young and has not reached an advanced stage of pregnancy.

#### SOW

A sow is a mature female swine that shows evidence of having reproduced or has reached an advanced stage of pregnancy.

#### STAG

A stag is a male swine castrated after development or beginning of development of the secondary physical characteristics of a boar. Typical stags are somewhat coarse and lack balance--the head and shoulders are more fully developed than the hindquarter parts, bones and joints are large, the skin is thick and rough, and the hair is coarse.

#### BOAR

A boar is an uncastrated male swine.

### APPLICATION OF STANDARDS FOR GRADES OF SLAUGHTER BARROWS AND GILTS

In the barrow and gilt classes, sex condition has exerted little effect on secondary physical characteristics, and barrows and gilts are treated as a single class in marketing and for standardization purposes. Therefore, the grade standards are equally applicable to both slaughter barrows and gilts.

The standards are based on the standards for grades of barrow and gilt carcasses. The two major factors forming the bases for the grades are (1) differences in yield of lean cuts and of fat cuts, and (2) differences in quality of cuts. There are rather consistent variations in these characteristics from one grade of barrows and gilts to another. U. S. No. 1 grade barrows and gilts have about the minimum finish required to produce pork cuts of acceptable quality in which the lean is firm and has sufficient marbling, or



fat interspersed within the lean, to result in the tenderness, juiciness, and flavor associated with desirable palatability. U. S. No. 2 grade barrows and gilts are overfinished and U. S. No. 3 grade barrows and gilts are decidedly overfinished in relation to the minimum finish required for the production of cuts of acceptable quality; yields of lean are lower and yields of fat are higher in these grades than in U. S. No. 1 grade. Medium grade barrows and gilts are underfinished, and although the ratio of lean to fat is higher than in U. S. No. 1 grade, the lean is soft and has little or no marbling. Cull grade barrows and gilts are decidedly underfinished and the pork is soft and watery with no visible evidence of marbling in the lean.

Application of the standards requires an accurate appraisal of the live animal characteristics which indicate the grade. The standards describe the characteristics of typical animals having the minimum degree of finish for each grade. No attempt is made to describe the numerous combinations of characteristics that may qualify an animal for a specific grade, and making appropriate compensations for varying combinations requires the use of sound judgment.

The general limits of grades for barrows and gilts are determined by degree of finish, but other factors are considered in certain cases to accomplish further refinement of the grades. Animals at the borderlines between grades with respect to degree of finish are graded by consideration of meatiness as evidenced by thickness and fullness (fat covering considered) of hams, loins, shoulders, and bellies; apparent firmness of fleshing; and distribution of fat covering. The application of these compensating factors is limited to borderline cases between grades, and in no case is the final grade of an animal more than one-half the width of a grade different than that indicated by apparent degree of finish.

#### **SPECIFICATIONS FOR OFFICIAL UNITED STATES STANDARDS FOR GRADES OF SLAUGHTER BARROWS AND GILTS**

##### **U. S. NO. 1**

Slaughter barrows and gilts in this grade have an intermediate degree of finish. Hogs of the minimum finish for U. S. No. 1 are moderately wide over the top, and width of body over the top appears nearly equal to that at the underline. The back, from side to side, is moderately full and thick and usually appears well-rounded and blends smoothly into the sides. Width through the hams is usually nearly equal to width through the shoulders. The sides are moderately long, slightly thick, and usually smooth; the flanks are slightly thick and full. Depth at the rear flank may be slightly less than depth at the fore flank. Hams tend to be moderately thick and full with a slightly thick covering of fat. Jowls are moderately full and thick but are usually trim. Barrows and gilts in this grade produce U. S. No. 1 carcasses. Barrows and gilts with apparent degree of finish typical of the fatter one-half of the U. S. No. 1 grade but with the evidences of meatiness, firmness of fleshing, and distribution of finish more nearly typical of the U. S. No. 2 grade shall be graded U. S. No. 2.

##### **U. S. NO. 2**

Slaughter barrows and gilts in this grade have a moderately high degree of finish. Hogs of the minimum finish for U. S. No. 2

are wide over the top, and width of body appears slightly greater over the top than at the underline. The back, from side to side, is full and thick and often appears slightly flat with a noticeable break into the sides. Width may be slightly greater through the shoulders than through the hams. The sides are slightly short, moderately thick and smooth; the flanks are moderately thick and full. Depth at the rear flank is nearly equal to depth at the fore flank. Hams tend to be thick and full with a moderately thick covering of fat, especially over the lower part. Jowls are usually full and thick, and the neck appears rather short. Barrows and gilts in this grade produce U. S. No. 2 carcasses. Barrows and gilts with apparent degree of finish typical of the fatter one-half of the U. S. No. 2 grade but with the evidences of meatiness, firmness of fleshing, and distribution of finish more nearly typical of the U. S. No. 3 grade shall be graded U. S. No. 3. Those with apparent degree of finish typical of the thinner one-half of the U. S. No. 2 grade but with the evidences of meatiness, firmness of fleshing, and distribution of finish more nearly typical of the U. S. No. 1 grade shall be graded U. S. No. 1.

#### U. S. NO. 3

Slaughter barrows and gilts in this grade have a high degree of finish. Hogs possessing the minimum finish for U. S. No. 3 are very wide over the top, and width of body appears somewhat greater over the top than at the underline. The back, from side to side, is very full and thick and often appears nearly flat with a pronounced break into the sides. Width may be greater through the shoulders than through the hams. The sides are short, thick, and smooth; the flanks are thick and full. Depth at the rear flank is equal to depth at the fore flank. Hams tend to be very thick and full with a thick covering of fat, especially over the lower part. Jowls are very thick and full, and the neck appears short. Barrows and gilts in this grade produce U. S. No. 3 carcasses. Barrows and gilts with apparent degree of finish near the minimum for U. S. No. 3 grade but with evidences of meatiness, firmness of fleshing, and distribution of finish more nearly typical of the U. S. No. 2 grade shall be graded U. S. No. 2.

#### MEDIUM

Slaughter barrows and gilts in this grade have a low degree of finish. Hogs of the minimum finish for the grade are moderately narrow over the top, and width over the top appears less than at the underline. The back, from side to side, is slightly thin and appears rather peaked at the center, especially at and immediately behind the shoulders, with a distinct slope toward the sides. Hips may appear slightly prominent. Width may be slightly less through the shoulders than through the hams. The sides are long, moderately thin, and wrinkled; the flanks are thin. Depth at the rear flank is less than depth at the fore flank. Hams tend to be thin and flat with a slight taper toward the shanks. Jowls are usually slightly thin and flat, and the neck appears rather long. Barrows and gilts in this grade produce Medium grade carcasses.

#### CULL

Slaughter barrows and gilts in this grade have a very low degree of finish. Hogs with the fleshing typical of the grade are



narrow over the top, and width of body appears somewhat less over the top than at the underline. The back, from side to side, is thin, lacks fullness, and appears peaked at the center with a decided slope toward the sides. The hips are prominent. Width may be somewhat less through the shoulders than through the hams. The sides are very long, thin, and wrinkled; the flanks are very thin. Depth at the rear flank is considerably less than depth at the fore flank. Hams are very thin and flat with a decided taper toward the shanks. Jowls are usually thin and flat, and the neck appears long. Barrows and gilts in this grade produce Cull grade carcasses.

APPLICATION OF STANDARDS FOR GRADES OF SLAUGHTER SOWS

The standards for grades of slaughter sows are based on (1) differences in yields of lean cuts and of fat cuts and (2) differences in quality of cuts. These characteristics vary rather consistently from one grade to another. The U. S. No. 1 grade has about the minimum degree of finish necessary to produce pork carcasses with quality characteristics indicative of acceptable palatability in the cuts. The U. S. No. 2 grade is overfinished and the U. S. No. 3 grade is decidedly overfinished in relation to the minimum finish associated with acceptable palatability. Yields of lean cuts are lower and yields of fat cuts are higher, in proportion to the degree of overfinish, in these grades than in the U. S. No. 1 grade. Medium grade sows are underfinished and produce carcasses which are soft and have indications of insufficient quality for acceptably palatable cuts. Cull grade sows are decidedly underfinished and the pork is soft and watery with little or no marbling and low palatability.

The grades for slaughter sows are closely related to the grades for sow carcasses, and the desired objective in grading sows is the accurate prediction of the carcass grade that will be produced. Degree of finish is an important factor in grading, and the expected average back fat thickness of carcasses produced by each grade of slaughter sows forms a part of the standards. The results of study of carcass measurement and cutting data show that carcasses equal in fat thickness are approximately equal in yields of cuts regardless of differences in weight. Therefore, the expected back fat thickness of carcasses from each grade of slaughter sows is the same at all weights. The following table outlines the carcass fat thickness guides for each grade of slaughter sows.

Grade:	Average back fat thickness
U. S. No. 1	1.5 to 1.9 inches.
U. S. No. 2	1.9 to 2.3 inches.
U. S. No. 3	2.3 or more inches.
Medium	1.1 to 1.5 inches.
Cull	Less than 1.1 inches.

The standards for grades also include descriptive specifications of the characteristics of slaughter sows with the minimum degree of finish for each grade. Application of the standards requires an accurate appraisal of these live animal characteristics indicative of carcass finish and grade. No attempt is made to describe in the standards the many combinations of characteristics which may qualify an animal for a particular grade, and sound judgment is required to appropriately analyze varying combinations.

Slaughter sows that have produced several litters of pigs may show considerable roughness along the underline due to extensive development of mammary tissue. In addition, sows from which pigs were weaned only a short time prior to grading may show evidence that the mammary tissue is still active in milk production and not completely dry. Since smoothness and dryness of the underline have little effect on the basic grade determining factors, no provision is made in the standards for altering the grade of slaughter sows due to differences in these characteristics. It is recognized that the value determining factors to be considered in marketing sows include dryness and smoothness as well as such other factors as weight, degree of finish, quality, and fill. However, consideration of all such factors in determining grade would require a complicated system with a great number of grades in order to make each grade sufficiently restrictive to be practical and useful. Therefore, the grades outlined in these standards identify differences in slaughter sows with respect to yields of cuts and quality. They were designed as practical aids in evaluating slaughter sows when used in conjunction with other factors such as weight, fill, smoothness, and dryness.

#### **SPECIFICATIONS FOR OFFICIAL UNITED STATES STANDARDS FOR GRADES OF SLAUGHTER SOWS**

##### **U. S. NO. 1**

U. S. No. 1 grade slaughter sows have an intermediate degree of finish near the minimum required to produce pork cuts of acceptable palatability. Sows with the minimum finish for U. S. No. 1 grade are moderately long and slightly wide in relation to weight. Width of body is rather uniform from top to bottom and from front to rear. The back, from side to side, is moderately full and thick with a well-rounded appearance and blends smoothly into the sides. The sides are moderately long and slightly thick; the flanks are slightly thick and full. Depth at the rear flank may be slightly less than depth at the fore flank. Hams are usually moderately thick and full with a slightly thick covering of fat. Jowls are usually moderately thick and full but appear trim. Sows in this grade produce U. S. No. 1 grade carcasses.

##### **U. S. NO. 2**

U. S. No. 2 grade slaughter sows have a moderately high degree of finish that is somewhat greater than the minimum required to produce pork cuts of acceptable palatability. Sows with the minimum finish for the U. S. No. 2 grade are slightly short and moderately wide in relation to weight. Width of body is often greater over the top than at the underline and tends to be slightly greater through the shoulders than through the hams. The back, from side to side, is full and thick and appears slightly flat with a noticeable break into the sides. The sides are slightly short and moderately thick; the flanks are moderately thick and full. Depth at the rear flank is nearly equal to depth at the fore flank. Hams are usually thick and full with a moderately thick covering of fat, especially over the lower part. Jowls are usually full and thick, and the neck appears rather short. Sows in this grade produce U. S. No. 2 grade carcasses.



U. S. No. 3 grade slaughter sows have a high degree of finish that is considerably greater than the minimum required to produce pork cuts of acceptable palatability. Sows with the minimum finish for U. S. No. 3 grade are short and wide in relation to weight. Width of body is often somewhat greater over the top than at the underline and tends to be greater through the shoulders than through the hams. The back, from side to side, is very full and thick and appears nearly flat with a pronounced break into the sides. The sides are short and thick; the flanks are thick and full. Depth at the rear flank is equal to depth at the fore flank. Hams are usually very thick and full with a thick covering of fat especially over the lower part. Jowls are usually very full and thick, and the neck appears short. Sows of this grade produce U. S. No. 3 grade carcasses.

#### MEDIUM

Medium grade slaughter sows have a low degree of finish which is somewhat less than the minimum required to produce pork cuts of acceptable palatability. Sows with the minimum finish for Medium grade are long and moderately narrow in relation to weight. Width of body is often less over the top than at the underline and tends to be slightly less through the shoulders than through the hams. The back, from side to side, is moderately thin and appears rather peaked at the center with a distinct slope toward the sides. The hips are moderately prominent. The sides are long and moderately thin; the flanks are thin. Depth at the rear flank is less than depth at the fore flank. Hams are usually moderately thin and flat and taper toward the shank. Jowls are usually slightly thin and flat, and the neck appears rather long. Sows in this grade produce Medium grade carcasses.

#### CULL

Cull grade slaughter sows have a very low degree of finish which is considerably lower than that required to produce pork cuts of acceptable palatability. Sows with the finish typical of the Cull grade are long and narrow in relation to weight. Width of body is often somewhat less over the top than at the underline and tends to be less through the shoulders than through the hams. The back, from side to side, is thin and lacks fullness and is peaked at the center with a decided slope toward the sides. The hips are prominent. The sides are very long and thin; the flanks are very thin. Depth at the rear flank is considerably less than depth at the fore flank. Hams are usually thin and flat with a definite taper toward the shank. Jowls are usually thin and flat, and the neck appears long. Sows in this grade produce Cull grade carcasses.

